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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,787	10/31/2003	Steven R. Vasquez	K35A1304	1709

35219 7590 11/23/2005

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EXAMINER

RODRIGUEZ, GLENDA P

ART UNIT	PAPER NUMBER
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2651

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/698,787

Applicant(s)

VASQUEZ, STEVEN R.

Examiner

Glenda P. Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 4, 5, 10, 12, 13, 15, 16, 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Prins et al. (US Patent No. 5, 627, 695).

Regarding Claim 1, Prins et al. teach a disk drive comprising:

(a) A disk surface, wherein:

The disk surface comprises a plurality of concentric, radially spaced tracks; each track comprises a plurality of data sectors and a plurality of servo sectors (Col. 4, L. 66 to Col. 5, L. 18);

The plurality of servo sectors comprise a first index servo sector, a second index servo sector, and at least one non-index servo sector between the first and second index servo sectors (Col. 4, L. 66 to Col. 5, L. 18. It is inherent that between the servo index marks, there are data sectors in which do not have an index.);

A first index mark identifies the first index servo sector and a second index mark identifies the second Index servo sector the first index mark is different than the second index mark (Col. 3, L. 13-L. 43);

(b) A head actuated over me disk surface (Col. 2, L. 43-50); and

(c) A disk controller (Element 601) for:

Maintaining a servo sector counter that identifies the circumferential location of the servo sectors (See Abstract and Col. 6, L. 60-67);

Detecting one of the first and second index marks (See Abstract, Col. 3, L. 13-L. 43 and Col. 6, L. 60-67);

And initializing the servo sector counter relative to which index mark is detected (Col. 3, L. 13-L. 43, wherein Prins et al. teaches resetting the counter after each zone in the disk.).

Method claim (12) is drawn to the method of using the corresponding apparatus claimed in claim (1). Therefore method claim (12) corresponds to apparatus claim (1) and is rejected for the same reasons of obviousness as used above.

Regarding Claims 2 and 13, Prins et al. teach all the limitations of Claims 1 and 12, respectively. Prins et al. further teach wherein:

- (a) the disk controller detects a loss of synchronization to the servo sectors by detecting one of the first and second index marks at the wrong time (Prins et al. has a controller that is a window index pulse detector that gives a window of time that if the index marks are in synchrony, they are supposed to be detected according to the Summary of the Invention. See also Col. 3, L. 13-L. 43); and
- (b) re-initializes the servo sector counter if loss of synchronization is detected (Col. 3, L. 13-L. 43).

Regarding Claims 4 and 15, Prins et al. teach all the limitations of Claims 1 and 12, respectively. Prins et al. further teach wherein each servo sector comprises an index mark field for storing a plurality of bits for recording one out of a group consisting of the first index marks

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the second Index mark, and a non- index mark (Col. 4, L. 66 to Col. 5, L. 18 and See also Fig. 2. It is inherent that between the servo index marks, there are data sectors in which do not have an index.).

Regarding Claim 5 and 16, Prins et al. teach all the limitations of Claims 1 and 12, respectively. Prins et al. further teach wherein: (a) a first plurality of servo sectors comprise information for identifying the first index mark (Col. 3, L. 31-43); and (b) a second plurality of servo sectors comprise information for identifying the second index mark (Col. 3, L. 31-43 all servo index marks have the same information.).

Regarding Claims 10 and 21, Prins et al. teach all the limitations of Claims 1 and 12, respectively. Prins et al. further teach wherein the index marks are fault tolerant (Col. 5, L. 28-46).

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prins et al. in view of Serrano (US Patent No. 6, 034, 835). Prins et al. teaches all the limitations of Claim 1 and 12, respectively. However, Prins et al. does not distinctively teach wherein the first and second index marks comprise redundancy bits for distinguishing between the first and second index marks. Serrano does in fact teach wherein between servo tracks there contains some bit redundancy between them (Col. 2, L. 38-56 of Serrano). It would have been obvious to

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a person of ordinary skill in the art, at the time the invention was made, to modify Prins et al.'s invention with the teaching of Serrano in order to properly identify the position with the head with respect to the disk.

5. Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prins et al. in view of Buch (US Patent No. 5, 274, 509). Prins et al. teaches all the limitations of Claims 1 and 12, respectively. However, Prins et al. does not distinctively teach wherein performing head switch operations using the controller. Buch teaches a controller that controls head switching operation as shown in Col. 3, L. 13-17 of Buch. It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Prins et al.'s invention with the teaching of Buch in order to monitor adequately the operations conducted by the disk drive.

6. Claims 6-8 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prins et al. in view of Nemazie et al. (US Patent No. 5, 848, 438).

Regarding Claims 6 and 17, the combination of Prins et al. teach all the limitations of Claims 5 and 16, respectively. However, Prins et al. does not explicitly teach wherein a first and second group of servo sectors does not include index marks. Nemazie et al. teaches wherein (a) the first plurality of servo sectors does not include the first index servo sector; and (b) the second plurality of the servo sectors does not include the second index servo sector (See Col. 3, L. 33-49, wherein Nemazie et al. teaches a ID-less (i.e. index-less) format for a group of sectors in a disk.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Prins et al.'s invention with the teaching of Nemazie et al. in order to make the head re-orient adequately on the disk.

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Regarding Claims 7 and 18, Prins et al. teach all the limitations of Claims 5 and 16, respectively. However, Prins et al. does not explicitly teach wherein for a group of servo sectors at least one bit of the first index mark. Nemazie et al. teach wherein at least one bit of either the first and second group corresponds to its respective index mark (Col. 2, L. 50 to Col. 3, L 8 of Nemazie et al.).

Regarding Claims 8 and 19, the combination Prins et al. and Nemazie et al. teach all the limitations of Claims 7 and 18, respectively. The combination further teach that each group has its particular synch index mark (INDEX in Nemazie et al.'s reference) (See Col. 2, L. 50 to Col. 3, L 8 of Nemazie et al., wherein it is obvious that for two index marks to be different amongst a plurality (groups, sectors, etc), there must be at least one bit different.).

7. Claims 9 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prins et al. and Nemazie et al. as applied to claims 7 and 18 above, and further in view of Yanagi et al. (US Patent No. 5, 673, 243). The combination of Prins et al. and Nemazie et al. teaches all the limitations of Claims 7 and 18, respectively. However, the combination does not explicitly teach wherein the index marks being constrained by a RLL constraint. Yanagi et al. teaches ID (i.e. index) fields being constrained by a (1,7) RLL code constraint (Col. 8, L. 15-31). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify the combination's invention with the teaching of Yanagi et al. in order to minimize DC fluctuation (Col. 2, L. 9-14 of Yanagi et al.).

***Response to Arguments***

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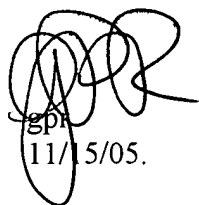
8. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenda P. Rodriguez whose telephone number is (571) 272-7561. The examiner can normally be reached on Monday thru Thursday: 7:00-5:00; alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
gpr  
11/15/05.

  
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